

# PHOTODYNAMIC TREATMENT OF TARGETED CELLS

## RELATED APPLICATIONS

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5 This application is a continuation of and claims priority to allowed U.S. Application Serial No. 09/905,501, <sup>filed 7/13/2001 and now U.S. Patent No. 6,899,723</sup> to James Chen, entitled "TRANSCUTANEOUS PHOTODYNAMIC THERAPY OF TARGETED CELLS," filed July 13, 2001, the disclosure of which is incorporated by reference in its entirety herein.

## TECHNICAL FIELD

10 This invention generally relates to the field of delivery to a tumor site of a therapeutically effective amount of a photosensitizing agent that is activated by a relatively low fluence rate of light administered over a prolonged period of time. More specifically, the filed of this invention  
15 relates to the delivery of a photosensitizing agent that is targeted to link or to preferentially associate with target cells at the target site, including cancer cells.

## BACKGROUND ART

One form of energy activated therapy for destroying abnormal or  
20 diseased tissue is photodynamic therapy (PDT). PDT is a two-step treatment process, which has received increasing interest as a mode of treatment for a wide variety of different cancers and diseased tissue. The first step in this therapy is carried out by administering a photosensitive compound systemically by ingestion or injection, or topically applying the  
25 compound to a specific treatment site on a patient's body, followed by illumination of the treatment site with light having a wavelength or waveband corresponding to a characteristic absorption waveband of the photosensitizer. The light activates the photosensitizing compound, causing singlet oxygen radicals and other reactive species to be generated,  
30 leading to a number of biological effects that destroy the abnormal or diseased tissue, which has absorbed the photosensitizing compound. The depth and volume of the cytotoxic effect on the abnormal tissue, such as a